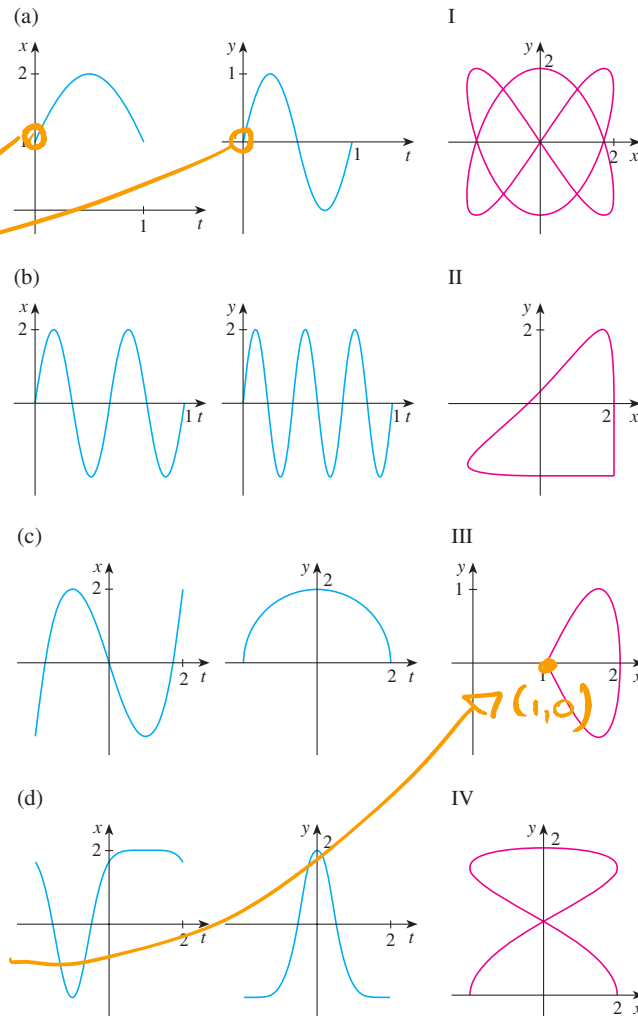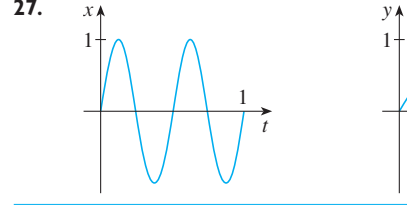**24.** Match the graphs of the parametric equations $x = f(t)$ and $y = g(t)$ in (a)–(d) with the parametric curves labeled I–IV. Give reasons for your choices.
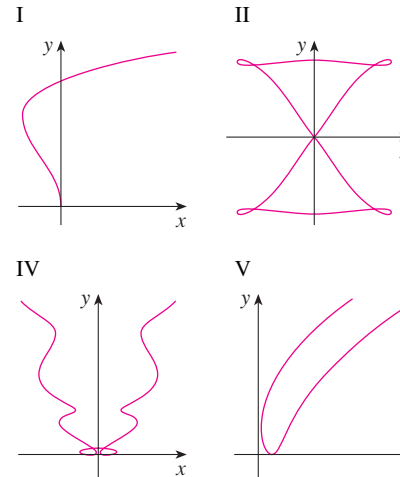
(a)

(b)

(c)

(d)

I

II

III

IV

[Handwritten annotation:] These points tell me that the point $(1,0)$ is on the graph of the parametric curve defined by these equations. So, we choose III

[Handwritten on III:] $\leftarrow (1,0)$

27.

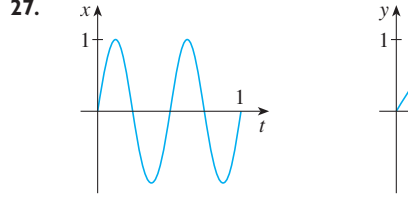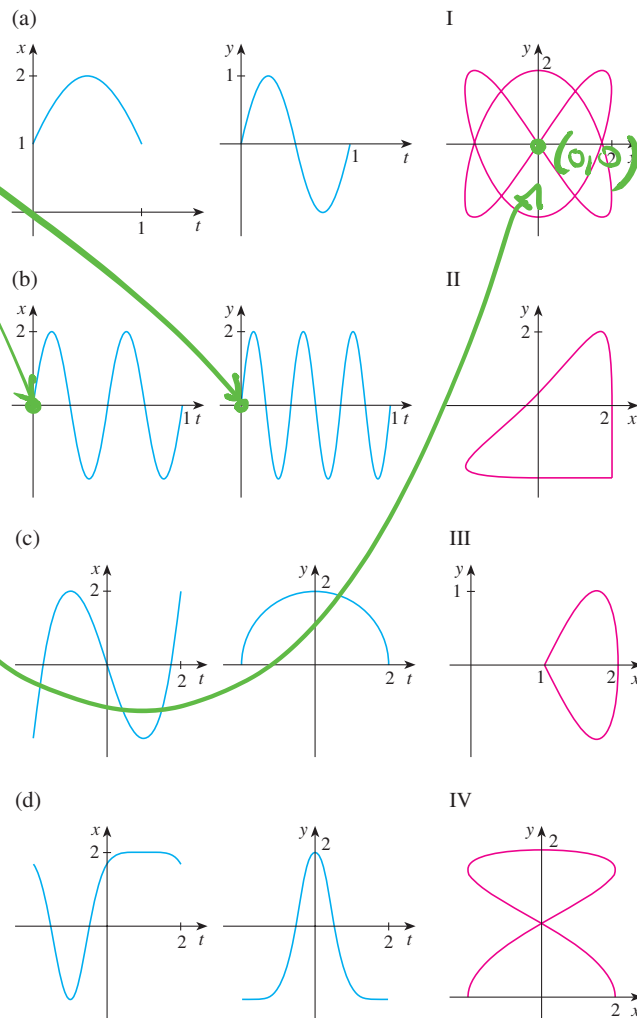**28.** Match the parametric equations with Give reasons for your choices. (Do n device.)

(a) $x = t^4 - t + 1, \quad y = t^2$

(b) $x = t^2 - 2t, \quad y = \sqrt{t}$

(c) $x = \sin 2t, \quad y = \sin(t + \sin 2t)$

(d) $x = \cos 5t, \quad y = \sin 2t$

(e) $x = t + \sin 4t, \quad y = t^2 + \cos 3t$

(f) $x = \dfrac{\sin 2t}{4 + t^2}, \quad y = \dfrac{\cos 2t}{4 + t^2}$

I

II

IV

V

29. Graph the curve $x = y - 3y^3 + y^5$.

30. Graph the curves $y = x^5$ and $x = y($ points of intersection correct to one

Handwritten note (left margin):

Here, my curve starts at (0,0), and again we have only one option, I.

24. Match the graphs of the parametric equations $x = f(t)$ and $y = g(t)$ in (a)–(d) with the parametric curves labeled I–IV. Give reasons for your choices.

(a)

I

(b)

II

(c)

III

(d)

IV

27.

28. Match the parametric equations with Give reasons for your choices. (Do n device.)

(a) $x = t^4 - t + 1, \quad y = t^2$

(b) $x = t^2 - 2t, \quad y = \sqrt{t}$

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(d) $x = \cos 5t, \quad y = \sin 2t$

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I

II

IV

V
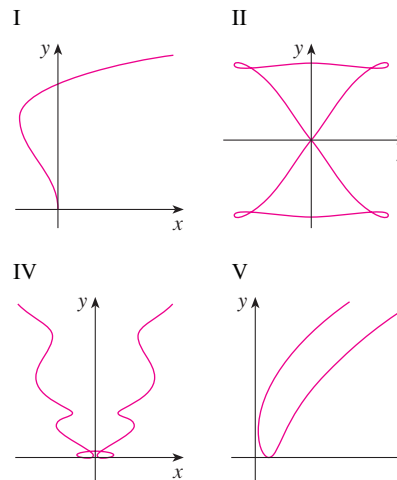
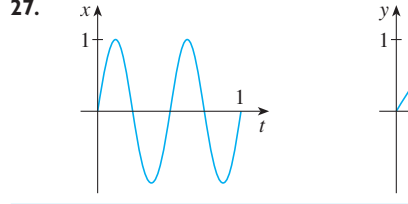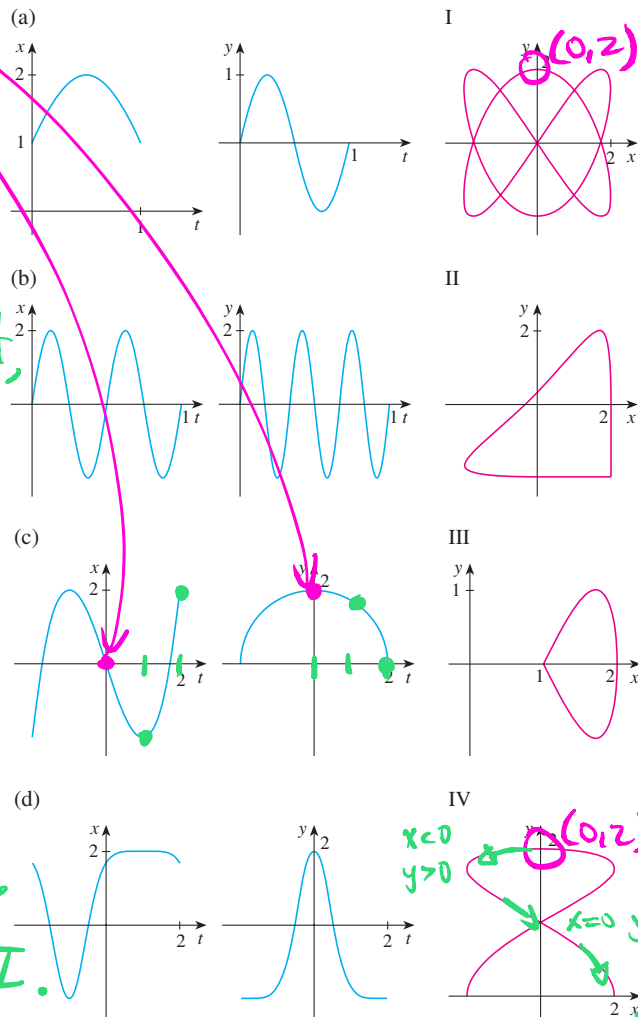**29.** Graph the curve $x = y - 3y^3 + y^5$.

30. Graph the curves $y = x^5$ and $x = y($ points of intersection correct to one

Here, at
t=0, we
have (x(0), y(0))
= (0,2).

We then note that,
as t grows from
t=0 to t=2 we
have that x(t)
goes vegative, first,
then back up to
positive. In the
same time, y(t)
goes from 2, to 0.
So, we choose **IV**.

24. Match the graphs of the parametric equations $x = f(t)$ and $y = g(t)$ in (a)–(d) with the parametric curves labeled I–IV. Give reasons for your choices.

(a)

I
(0,2)

(b)

II

(c)

III

(d)

IV
$x<0$
$y>0$
(0,2)
$x=0$ $y>1$
$x>0$
$y=0$

27.

28. Match the parametric equations with Give reasons for your choices. (Do n device.)
(a) $x = t^4 - t + 1$, $y = t^2$
(b) $x = t^2 - 2t$, $y = \sqrt{t}$
(c) $x = \sin 2t$, $y = \sin(t + \sin 2t)$
(d) $x = \cos 5t$, $y = \sin 2t$
(e) $x = t + \sin 4t$, $y = t^2 + \cos 3t$
(f) $x = \dfrac{\sin 2t}{4 + t^2}$, $y = \dfrac{\cos 2t}{4 + t^2}$

I

II

IV

V
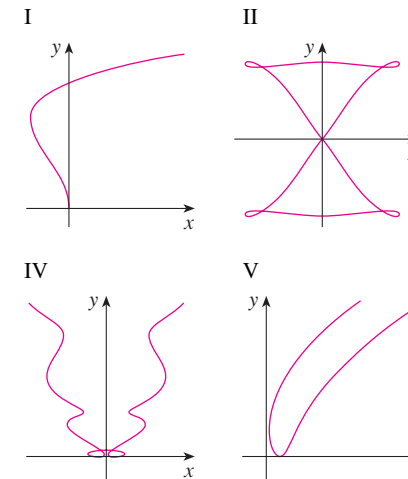
29. Graph the curve $x = y - 3y^3 + y^5$.

30. Graph the curves $y = x^5$ and $x = y($ points of intersection correct to one

Last, we can deduce

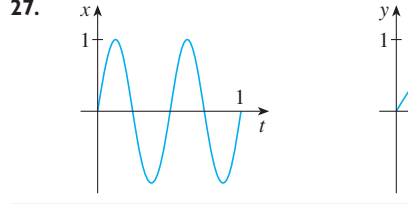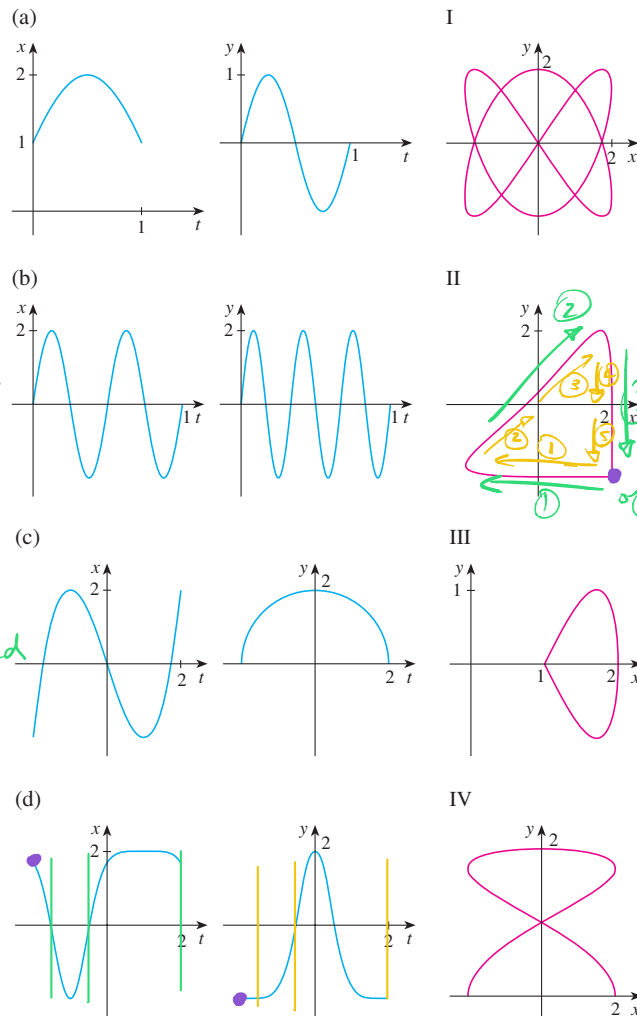that (d) pairs w/ II,
but we should make
sure.

① It appears to
start, w/ t=-2,
at the point (2,-2).
This checks out.

② The x-value goes
from 2 to -2 ① to
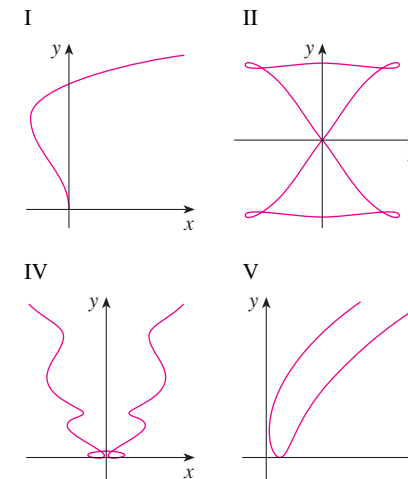2, ② then stays ③, then
drops to where it started

③ The y-value
goes from
level at -2 ①
to 0 ②
to 2 ③
to 0 ④
to -2 ⑤
and then level again

24. Match the graphs of the parametric equations $x = f(t)$ and $y = g(t)$ in (a)–(d) with the parametric curves labeled I–IV. Give reasons for your choices.

(a)

I

(b)

II

(c)

III

(d)

IV

27.

28. Match the parametric equations with
Give reasons for your choices. (Do n
device.)
(a) $x = t^4 - t + 1$, $y = t^2$
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I

II

IV

V

29. Graph the curve $x = y - 3y^3 + y^5$.

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points of intersection correct to one d